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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/479,186	01/07/00	DUPONT	W P/3255-39

002352 MMC2/0329  
OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK NY 10036-8403

EXAMINER

WALKENHORST, D

ART UNIT	PAPER NUMBER
	2831

DATE MAILED: 03/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/479,186	DUPONT ET AL.
	Examiner	Art Unit
	W. David Walkenhorst	2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 07 January 2000.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-11 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

15) Notice of References Cited (PTO-892)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

18) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

19) Notice of Informal Patent Application (PTO-152)

20) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Objections***

1. Claim 1 is objected to because of the following informalities: one of the periods at the end of the claim should be deleted. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birkelund et al. in view of Specification for Subsea Production Control Umbilicals (API).

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Regarding claim 1, Birkelund et al. discloses an umbilical comprising a plurality of steel tubes (3) helically wound around a core (1); but does not disclose at least one substantially solid steel rod helically wound around said core, said steel rod being arranged in a void between said steel tubes. API teaches that filler material should be selected with consideration of the crushing forces due to manufacture, installation and service (see API, pg. 12, col. 2, lines 7-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the zinc wires (4,5) of Birkelund et al. with at least one solid steel rod helically wound around said core, said solid steel rod being arranged in a void between said steel tubes for the purpose of strengthening the umbilical.

Regarding claim 2, Birkelund et al. as modified by API further discloses at least one elongated umbilical element selected from the group consisting of thermoplastic tubes, optical fiber cables, and electrical power and communications cables (see Birkelund et al. col. 1, lines 61-65).

Regarding claim 3, Birkelund et al. as modified by API further discloses a non-metallic outer sheath (6) surrounding and in direct contact with at least some of said plurality of steel tubes and said elongated umbilical elements.

Regarding claim 4, Birkelund et al. as modified by API further discloses that said at least one steel rod is in direct contact with said non-metallic outer sheath.

Regarding claim 5, Birkelund et al. as modified by API further discloses that said at least one steel rod is made of solid steel.

Regarding claim 6, Birkelund et al. discloses a method of increasing the hydrodynamic stability of an umbilical comprising a plurality of steel tubes (3) helically wound around a core (1), but does not disclose that said method comprises the step of arranging at least one substantially solid steel rod in a void between said steel tubes and helically wound around said core. API teaches that filler material should be selected with consideration of the crushing forces due to manufacture, installation and service (see API, pg. 12, col. 2, lines 7-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the zinc wires (4,5) of Birkelund et al. with at least one solid steel rod helically wound around said core, said solid steel rod being arranged in a void between said steel tubes for the purpose of strengthening the umbilical.

Regarding claim 7, Birkelund et al. as modified by API further discloses the step of helically winding around said core at least one elongated umbilical element selected from the group consisting of thermoplastic tubes, optical fiber cables, and electrical power and communications cables (see Birkelund et al. col. 1, lines 61-65).

Regarding claim 8, Birkelund et al. as modified by API further discloses the step of placing a non-metallic outer sheath (6) surrounding and in direct contact with at least some of said plurality of steel tubes and said elongated umbilical elements.

Regarding claim 9, Birkelund et al. as modified by API further discloses the step of placing said at least one steel rod in direct contact with said non-metallic outer sheath.

Regarding claim 10, Birkelund et al. as modified by API further discloses the step of making said at least one steel rod of solid steel.

Regarding claim 11, Birkelund et al. as modified by API further discloses all of the limitations of claim 6 above, but does not disclose at least one plastic filler helically wound around said core with said steel tubes. API teaches the use of plastic fillers in umbilicals (see API, col. 2, lines 11-13). API also teaches that filler material should be selected with consideration of the crushing forces due to manufacture, installation and service (see API, pg. 12, col. 2, lines 7-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the zinc wires (4,5) of Birkelund et al. with at least one solid steel rod helically wound around said core, said solid steel rod being arranged in a void between said steel tubes for the purpose of strengthening the umbilical.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Antonsen and Ege are cited to show examples of umbilicals similar to application's claimed invention.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Walkenhorst whose telephone number is (703) 306-5402. The examiner can normally be reached on Mon-Thurs. 7:30AM-5:00PM, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (703) 308-0640. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Walkenhorst:wdw  
March 24, 2001

*Dean A. Buckard 3/26/01*

Dean A. Buckard  
Primary Examiner